

Commentary

Modes of Asbestos Detection in Food and Drugs*

by Carl Maggiore†

We became interested in drugs because they represent a direct introduction to the body, particularly the parenterals. Three sources of contamination must be considered: the asbestos cellulose pads that are often used for filtration; the deliberate addition of inorganic material; and accidental introduction through improper processing.

We performed some initial investigations on drugs in 1969–1971. We examined 17 parenterals for chrysotile only, and we looked at single vials. Three were found to be contaminated by light microscopy for which we used the rub-out procedure and ashing of material retained on filtration. Six were found to be contaminated when examined by transmission microscopy. The levels found were up to 1 μ g per dose of drug, although most were lower.

More recently we examined bulk samples of parenterals, both original and reconstituted, and some syrups and pills. We also looked at bottled water. The techniques that we used were

transmission electron microscopy for chrysotile and very limited use of the SEM microprobe in examination for other materials that might be present. Of the 12 samples of large volume parenterals, two were found to be contaminated with chrysotile and two others possibly contaminated. Of the reconstituted parenterals, six of 19 were found contaminated with chrysotile. None of the ampoules examined were contaminated. The bottled water was not contaminated, nor were the oral drugs. I must emphasize that we were looking for chrysotile, not for any of the amphiboles.

Monitoring poses some difficult questions. If animal testing is to be done, what animals should be used and how should the test be conducted? A decision has to be made on what to monitor; it is easy to monitor the wrong thing. Restrictions can be placed on modes of preparation, and perhaps this is the best thing to do. The question arises as to how much effort should be expended in monitoring, in view of the uncertainties that seem to surround the interpretation of biological significance.

*Editor's extract from transcript of presentation.

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